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ABSTRACT

This study evaluates the results of innovation in teaching methodology in an American government college course. The assumption of the study was that organizing a course into modules which required students to be tested for proficiency after each module was presented would maximize student factual knowledge gain and would result in improved attitudes toward the course. Two sections, both introductory American government courses, consisted of an experimental group and control group. The course in the experimental group was organized into eight modules. As the subject matter covered in each module was taught, each student was given a pre- and posttest which measured factual knowledge gained from the course and attitudes toward the course. At the end of the semester, each of the students was asked to complete a posttest involving all the items on all eight modules. In contrast to the experimental group, students in the control group were given the pre- and posttests, but not tested after the subject matter was covered in each module. Analysis of student characteristics data for each group indicated that students were similar with regard to class standing, grade point average, parental income, political affiliation, activities, and attitudes. Findings in the cognitive domain indicated that the modular students had a higher average test score gain than the control students. In the attitudinal domain, findings indicated that attitudinal change was characteristic of both groups and not highly correlated with teaching method. The conclusion was that the modular students performed better than the control students on the cognitive items and that, assuming equal coverage of the topics, the modular approach was more effective. The appendix presents the eight modular tests. (Author/DB)

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COGNITIVE AND ATTITUDINAL CHANGE IN THE INTRODUCTORY AMERICAN POLITICS COURSE

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INTRODUCTION

In recent years, teaching innovation and experimentation have become widespread in many colleges and universities. Experimental approaches and techniques, including team teaching, interdisciplinary courses, computer assisted teaching, individualized instruction, modular designs, audio-tutorial programs, and specialized teacher improvement programs have been instituted.[1] This increase in interest in undergraduate instruction is no doubt closely related, partly due to the declining numbers of graduate students, to a "rediscovery" of the undergraduate and a general concern for the quality of undergraduate instruction. One does not have to look far for empirical evidence of this trend. The American Political Science Association, through its Division of Educational Affairs, has sponsored several grant competitions for those interested in developing new course materials as well as a publication summarizing the new approaches.[2] One university has even begun to offer courses on improving teaching techniques for their faculty while many universities have adopted, often on a voluntary basis, some procedure for student evaluation of faculty instruction.[3]

While these attempts to improve undergraduate instruction are to be applauded, far too often the social scientists involved in such teaching experimentation fail to develop evaluation techniques to measure the effectiveness and efficiency of the innovation. No matter how well meaning those participating in educational reform and experimentation may be, they also need to be concerned that a carefully devised and established set of evaluation procedures accompany any instructional innovation. These evaluation procedures need to be as carefully reviewed and considered as the teaching experimentation itself. The questions which ought to be covered in an evaluation include: what are the stated goals of the innovation or experimentation, what is the empirical evidence needed to investigate whether the goals are being reached or not, and what are the costs associated with the innovation or experimentation. Undergraduate instruction involves complex decisions regarding resource allocation and social scientists should be concerned, as they expect others in society to be, with obtaining maximum benefits at the least cost.

This is not to say that research dealing with teaching has been either ignored or improperly done. One need only to consult the various educational

journals or recent issues of DEA News to discover that Robert M. W. Travers' comment in the beginning pages of the Second Handbook of Research on Teaching is still quite appropriate.[4] Travers concluded that "research related to teaching is a large though ill-defined area that at present is experiencing a surge of new ideas. The ideas that are being explored, even more than the knowledge developed to date, may be of interest to the contemporary reader since the ideas represent the very foundations on which an edifice of knowledge may be built."[5] One could infer from Travers' comment that teaching research required greater conceptual and methodological rigor before important empirical results could be obtained.

The problem is that far too often teaching evaluation is based on either evaluating the teaching process itself or students' responses to the process. As McNeil and Popham argue in their article dealing with teacher competency, "the thrust of frequent discussions . . . has been to emphasize the necessity to produce criterion measures which can be used to assess the results of the instructional process, not merely the process itself."[6] Thus it can be argued that an essential and often lacking aspect of teaching experimentation is the evaluation of the results of that experimentation. As Trent and Cohen maintain in an article summarizing teaching research in higher education, "a wide range of innovation and experimentation is currently being undertaken in colleges and universities throughout the country. This includes increased student participation in course curriculum planning, independent study, new technologies, change or elimination of grades, and restructuring curricula. Yet these innovations are rarely evaluated."[7] What is usually missing from any evaluation of teaching is a consistent set of performance variables which indicate how much a student has learned in a a course and consequently the extent of instructor effectiveness.

If instructional evaluation of the results of teaching experimentation is needed, the next series of questions involves the type of evaluation which might be utilized and how it might be accomplished. In a bibliographical essay reviewing the various approaches to teacher evaluation, James Benze divided prior approaches into four categories: those utilizing pupil enrollment increase, peer evaluation, student ratings, and student growth and achievement.[8] Benze, after reviewing each of the four approaches, concludes that each has weaknesses and that there are no simple or easy

solutions for those interested in evaluating undergraduate instruction.[9] Trent and Cohen conclude their assessment of research on teaching in higher education by stating "the great need, therefore, is for more comprehensive and sophisticated research, for better dissemination of its results, and for the institutions to make use of these results."[10] This paper describes the specific behavioral research utilized in an undergraduate American politics course to evaluate pupil gain and teacher effectiveness.

During the Fall, 1975, semester, I received a grant from Purdue University to modularize my introductory American government course.* While preparing the modules,[11] I decided to undertake an evaluation of the modular experimentation. A series of pre and post tests for each module were developed which measured the cognitive (what students factually knew) and attitudinal (what students felt) dimensions of the course. An eight module sequence was developed for my particular section of the introductory course. Criterion items, factual questions with "right" and "wrong" answers, were developed for the cognitive portion of each module along with a set of questions exploring attitudinal preferences. (These questions are listed in Appendix A and the reader may want to review them as they are often referred to in the upcoming discussion.) Each student was asked on the first day of class to take a pre-test which included all the modular items in Appendix A along with the background questions listed in Appendix B. As the subject matter covered in each module was taken up in the section, each student was given the same pre-test and corresponding post-test. Finally, at the end of the semester, each of the students was asked to complete a post-test involving all the items on all eight modules. Thus a student who was in class regularly (mandatory attendance was not required and roll was not taken) answered each question four times. The assumption was that the pre and post testing would maximize cognitive gain and would provide the data needed for careful evaluation.

In addition, a control group composed of students in another introductory American government section was obtained through the cooperation and

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* I would like to acknowledge the financial assistance of Dean Robert Ringel and John Feldhusen of Purdue's School of Humanities, Social Sciences, and Education and the Purdue University Computer Center for its data processing assistance.

assistance of another instructor.[12] The control students were given a pre-test (which includes all the items in Appendices A and B) at the beginning of the semester and a post-test (including all the items in Appendix A) at the end of the semester, but were not given individual pre and post tests prior to covering and after completing the material in each module. The control students answered each question twice if they were in class when the pre and post tests were given. The two sections, both introductory American government courses, were completely separate and utilized different reading material, lecture techniques, and grading methods. The control was utilized to measure the comparative cognitive gain and attitudinal change involving the modular section and its exposure to a different teaching methodology. As the ensuing discussion indicates, having a control group was imperative for the evaluation effort and prevented a variety of faulty conclusions.

Table 1 summarizes the student characteristic variables for the students in the modular and control sections who completed both the pre and post questionnaires.

(INSERT TABLE 1 HERE)

TABLE 1

CHARACTERISTICS OF MODULAR AND CONTROL INTRODUCTORY STUDENTS*

	N=69 Modular 101		N=38 Control 101		N=107 Total	
	%	(N)	%	(N)	%	(N)
Class Standing						
1st. sem. freshman	33	(23)	45	(17)	38	(40)
2nd sem. freshman	3	(2)	--	--	2	(2)
Sophomore	37	(25)	37	(14)	36	(39)
Junior	17	(12)	10	(4)	15	(16)
Senior	10	(7)	8	(3)	9	(10)
Grade Point Average						
A- to A	15	(10)	24	(9)	18	(19)
B to B+	39	(27)	34	(13)	38	(40)
B- to C+	30	(21)	21	(8)	27	(29)
C to C+	9	(6)	18	(7)	12	(13)
C to C-	7	(5)	3	(1)	5	(6)
D	--	--	--	--		
Party Self-Identification						
Liberal democrat	5	(4)	13	(5)	8	(9)
Moderate democrat	12	(8)	8	(3)	10	(11)
Conservative democrat	3	(2)	3	(1)	3	(3)
Independent/democrat	28	(19)	21	(8)	25	(27)
Independent/republican	16	(11)	26	(10)	20	(21)
Liberal republican	7	(5)	5	(2)	7	(7)
Moderate republican	13	(9)	16	(6)	14	(15)
Conservative republican	3	(2)	3	(1)	3	(3)
Other	13	(9)	5	(2)	10	(11)
Political Self-Identification						
Radical	3	(2)	5	(2)	4	(4)
Liberal	25	(17)	21	(8)	23	(25)
Middle-of-the-roader	35	(24)	45	(17)	39	(41)
Conservative	17	(12)	11	(4)	15	(16)
Reactionary	7	(5)	13	(5)	9	(10)
Other/ Don't Know	13	(9)	5	(2)	10	(11)

TABLE 1 (cont/d.)

	N=69 Modular 101		N=38 Control 101		N=107 Total	
	%	(N)	%	(N)	%	(N)
Parents' Yearly Income						
Under $10,000	10	(7)	8	(3)	9	(10)
$10,000 to $15,000	16	(11)	16	(6)	16	(17)
$15,000 to $20,000	13	(9)	26	(10)	18	(19)
$20,000 to $25,000	19	(13)	13	(5)	17	(18)
Over $25,000	15	(10)	16	(6)	15	(16)
Don't Know	27	(19)	21	(8)	25	(27)
Voted in Presidential Election						
Yes	17	(12)	13	(5)	16	(17)
No	83	(57)	87	(33)	84	(90)
Worked in Presidential Campaign						
Yes	7	(5)	3	(1)	6	(6)
No	93	(64)	97	(37)	94	(101)
Interest in Politics						
Greatly interested	25	(17)	28	(11)	26	(28)
Somewhat interested	65	(45)	66	(25)	65	(70)
Somewhat disinterested	4	(3)	3	(1)	4	(4)
Greatly disinterested	6	(4)	3	(1)	5	(5)
Read Newsmagazine						
Weekly	48	(33)	66	(25)	56	(58)
Monthly	41	(28)	21	(8)	35	(36)
Almost Never	11	(5)	13	(5)	9	(10)
Watch Network News						
Daily	29	(20)	26	(10)	28	(30)
Once or twice a week	46	(32)	58	(22)	50	(54)
Once or twice a month	7	(5)	5	(2)	7	(7)
Almost never	18	(12)	11	(4)	15	(16)
Grade in Course						
A	7	(5)	NA	NA	7	(5)
B	26	(18)	NA	NA	26	(18)
C	38	(26)	NA	NA	38	(26)
D	26	(18)	NA	NA	26	(18)
F	3	(2)	NA	NA	3	(2)

* Percentages are based on the N responding to each question

** The control group's grades were not obtained.

As the data indicate, the two sections were similar in composition and characteristics. Both were predominantly freshman and sophomore classes and both had over 50% of their students with a grade point average of B or better. It is interesting to note that the grade distribution for the students in the modular section was lower than the students' reported grade point averages. In terms of party self-identification, the students placed themselves in the middle of the political spectrum with 44% of the modular section and 47% of the control section identifying with the independent leaning towards a particular party category while only 12 students identified themselves as liberal Democrats or conservative Republicans. The general tendency to be in the "center" is also reflected in the responses to the political self-identification question. In this case, 35% of the modular students and 45% of the control students identified with the "middle-of-the-roader"category while only 14 students selected either the radical or reactionary responses.

While the students may have identified with the more moderate of the categories, they were characterized by fairly high parental income. Over a third (34%) of the modular students and 29% of the control students had parents whose yearly income exceeded $20,000. Only 10 students had parents with yearly incomes under $10,000. This income factor is no doubt a reason for the middle-of-the-political spectrum findings discussed above.

The students were also asked if they had voted in a presidential election, worked in a presidential campaign and their general level of interest in politics. Few had voted (only 17% and 13% respectively) and even fewer (7% and 3% respectively) had worked in a presidential campaign. Despite these low participation rates, 90% of the modular and 94% of the control students were either greatly or somewhat interested in politics. Perhaps their political participation will increase in the future.

Finally, the students were asked if they read a newsmagazine or watched network television news as a way to tap their sources of information. A high percentage of students in both sections read a newsmagazine and watched network news on a regular basis with only 10 and 16 students respectively almost never reading a news magazine or watching network news.

Thus, the students in both sections reported a high degree of interest in politics, regular reading and viewing of news sources, middle-of-the road political tendencies, high grades, low political participation, and similar class standing and family backgrounds. For my purposes, and Table 1 supports

this, the students in the two sections were similar and comparisons between each section are possible without distorting reality. Thus, as far as possible, extraneous variables have been either eliminated or identified and an evaluation of the modular approach is possible. The next sections summarize the results of that evaluation.

COGNITIVE IMPACT

One could argue that the only or at least the most reliable teaching effectiveness criteria would be a measure of how much a student learns in a given course. This could be measured by selecting a set of performance items and then recording how the suudent did on these items prior to and after the course. A minimally acceptable performance level could then be established and a comparable rating of instructors undertaken. Those instructors whose students did better than the minimal level would be considered "good" (assuming proper controls for other factors) and those instructors whose students did not meet the minimal level might be encouraged to alter their teaching style or method. While the preceding is an oversimplification and does ignore an important aspect of instruction-process, nevertheless it is one type of evaluation which is rarely proposed and seldom attempted.

The modular section and its evaluation were designed to measure cognitive gain. An initial assumption was that if a student answered a question incorrectly at the beginning of the semester and then answered it correctly at the end of the semester, that cognitive learning had taken place. The reverse of that situation, the student answering the question correctly at the beginning of the semester and then incorrectly answering the same question at the end of the semester, is more difficult to explain. It is conceivable that additional information concerning the subject matter introduced in the course may have added confusion or created greater complexity for the student and this resulted in the wrong answer on the post-test. While this is plausible, a wrong answer on the post-test was considered just that - a wrong answer and one reflecting the fact that the student did not know the

correct answer. Cognitive gain can then be represented by the following formula:

$$scg = sfk - sik$$

where cg=cognitive gain

fk=final knowledge

ik=initial knowledge

s=student

This formula could also be used to determine a section score by simply summing the scg scores for each of the students in the class or section and dividing by the number of students. By using scg scores it is possible to compare individual student as well as instructor performance. The assumption throughout is that objective and reliable test criterion have been developed and appropriate controls instituted. (Appendix A lists the criterion items utilized.) The next five tables discuss student cognitive gain for both the modular and control sections.

Table 2 indicates the percentage of students correctly answering each item on the pre and post tests.

(INSERT TABLE 2 HERE)

TABLE 2

PERCENTAGE OF STUDENTS CORRECTLY ANSWERING PRE AND POST TESTS BY SECTION

		Modular		Control	
		Pre (N=69) % correct	Post % correct	Pre (N=38) % correct	Post % correct
	Module 1/				
Question	1	48	91	45	55
	2	80	91	71	87
	3	70	94	68	61
	4	84	91	90	87
	5	62	77	55	76
	6	64	80	37	66
	Module 2/				
	1	93	97	97	97
	2	77	80	84	84
	3	9	19	11	34
	4	52	71	74	74
	5	55	80	37	37
	Module 3/				
	4	41	91	53	55
	5	48	62	53	53
	6	10	48	16	16
	7	16	86	29	42
	8	26	87	29	53
	9	87	97	87	95
	10	90	97	92	92
	Module 4/				
	1	64	67	55	84
	2	38	90	24	37
	3	62	90	66	82
	4	35	62	40	34
	5	38	86	37	58
	Module 5/				
	1	17	54	24	40
	2	35	54	34	42
	3	17	29	24	37
	4	61	61	50	61
	5	81	97	92	90
	Module 6/				
	6	30	48	32	42
	7	16	32	13	21
	8	33	58	32	47
	9	44	68	50	66
	10	35	39	37	34
	Module 7/				
	1	42	65	53	47
	2	49	86	42	58
	3	83	91	84	87
	4	57	77	66	74
	5	45	84	55	79
	Module 8/				
	5	49	68	24	76
	6	25	45	18	24

Table 2 serves a variety of purposes. On the one hand, it indicates which questions were in fact most difficult and easiest for the students. For the modular group's pre test, six questions were answered correctly by less than 20% of the students. These questions involved knowledge of specific factual or conceptual information which the students apparently failed to discern in their prior coursework or from their reading or viewing sources. Only the question (module 2-3) dealing with the number of civilian employees was answered correctly by less than 20% of the modular students in the post test. A similar pattern is also found in comparing the control students — four questions with less than 20% correct in the pre and only one (Module 8-6) answered correctly by less than 20% in the post test. Similar comparisons are possible on the questions with the highest percentage of correct answers. These comparisons provide the instructor with a useful diagnostic tool to investigate which type of questions as well as which particular questions are most difficult.

Table 2 also permits a comparison of pre and post scores and subsequently cognitive gain by section if the formula discussed earlier is utilized. Tables 3 and 4 present the cognitive scores and are revealing. Table 3 utilizes pre and post percentages to determine cognitive gain for each section by utilizing the previously discussed formula.

(INSERT TABLE 3 HERE)

TABLE 3

COGNITIVE GAIN BY SECTION*

	Modular	Control		Modular	Control
Module 1			Module 5		
Question 1	43	10	1	37	16
2	11	16	2	19	18
3.	24	-7	3	12	13
4	7	-3	4	0	11
5	15	21	5	16	-2
6	16	29			
Module 2			Module 6		
1	4	0	6	18	10
2	3	0	7	16	8
3	10	23	8	25	15
4	19	0	9	24	16
5	15	0	10	4	-3
Module 3			Module 7		
4	50	2	1	23	-6
5	14	0	2	37	16
6	38	0	3	8	3
7	70	13	4	20	8
8	61	24	5	39	24
9	10	8			
10	7	0			
Module 4			Module 8		
1	3	29	5	19	52
2	52	13	6	20	6
3	28	16			
4	27	-6			
5	48	21			

*Cognitive gain = sfk-sik. These data are found in Table 2.
For modular section, average cognitive gain for the 39 items with score gains, was 23%.
For control section, average cognitive gain for the 27 items with score gains, was 16%.
For control section, average cognitive loss for the 6 items with score losses, was 5%.

Table 3 indicates that the modular students had a higher average cognitive gain (23% to 16%) than the control students and that the modular students did not have any cognitive losses while the control students had six with an average loss of 5%. This would tend to indicate that the modular students did do better than the control students in the cognitive items and that, assuming equal coverage of the topics, the modular approach was more effective. That is, it resulted in higher cognitive gains than the more traditional approach used in the control section.

Table 4 places this conclusion in a broader perspective by comparing the two sections by dividing the questions into appropriate categories of gains and losses. The data in the table indicate that:

(INSERT TABLE 4 HERE)

TABLE 4

PRE AND POST COMPARISONS: MODULAR AND CONTROL INTRODUCTORY SECTIONS[1]

	Modular 101	Control 101
Questions with increase over 15%	1-1, 1-3, 1-6, 2-4, 3-4, 3-6, 3-7, 3-8, 4-2, 4-3, 4-4, 4-5, 5-5, 5-2, 5-5, 6-6, 6-7, 6-8, 6-9, 7-1, 7-2, 7-4, 7-5, 8-5, 8-6	1-2, 1-5, 1-6, 2-3, 3-8, 4-1, 4-3, 4-5, 5-1, 5-2, 6-9, 7-2, 7-5, 8-5
Questions with increase GT 5% to 15%	1-2, 1-4, 1-5, 2-3, 2-5, 3-5, 3-9, 3-10, 5-3, 7-3	1-1, 3-7, 3-9, 4-2, 5-3, 5-4, 6-6, 6-7, 6-8, 7-4, 8-6
Questions with increase GT 1% to 5%	2-1, 2-2, 4-1, 6-10	3-4, 7-3
Questions with no change (+ or - 1%)	5-4	2-1, 2-2, 2-4, 2-5, 3-5, 3-6, 3-10
Questions with decrease (% decrease in ())		1-3 (-7), 1-4 (-3), 4-4 (-6), 5-5 (-2), 6-10 (-3), 7-1 (-6)

[1]For the modular 101 section, the scores in columns 1 and 2 of Table 2 were compared and each question assigned to the appropriate category. For the control section, columns 3 and 4 of Table 2 were compared and each question assigned to the appropriate category.

(1) the modular section had 25 questions with a cognitive gain over 15% while the control section had 14;
(2) the modular section had 10 questions with a congnitive gain of 5% to 15% while the control section had 11;
(3) the control section had a larger number of questions with no change (7 to 1) than the modular section; and
(4) the control section had 6 questions with a cognitive loss.

This type of information is invaluable for the instructor attempting to improve his or her teaching effectiveness as it permits inter-class comparisons and the development of class profiles which can be useful in structuring subsequent lectures, discussions, or the introduction of other materials. Table 4 alsc helps to sharpen the distinction between the two sections and provides additional evidence for the greater cognitive gain experienced by the students in the modular section.

One additional comparison between the two sections is provided in Table 5 which indicates a score for each of the modules. The scale was computed by writing a computer program which simply sums how many students in each section answered how many questions correctly in both the pre and post tests.

(INSERT TABLE 5 HERE)

TABLE 5

FREQUENCY DISTRIBUTION (%) FOR PRE AND POST SCALE SCORES FOR MODULAR AND CONTROL GROUPS*

	Pre				Post			
	Modular		Control		Modular		Control	
Module 1	%	(N)	%	(N)	%	(N)	%	(N)
0	4	(3)	--	(--)	--	(--)	--	(--)
1	1	(1)	5	(2)	--	(--)	3	(1)
2	6	(4)	18	(7)	1	(1)	3	(1)
3	17	(12)	16	(6)	6	(4)	21	(8)
4	26	(18)	29	(11)	10	(7)	26	(10)
5	31	(21)	29	(11)	32	(22)	29	(11)
6	15	(10)	3	(1)	51	(35)	18	(7)
Module 2								
0	4	(3)	--	(--)	1	(--)	2	(1)
1	6	(4)	8	(3)	1	(1)	--	(--)
2	16	(11)	13	(5)	10	(7)	16	(6)
3	48	(33)	47	(18)	35	(24)	34	(13)
4	25	(17)	32	(12)	48	(33)	46	(17)
5	1	(1)	--	(--)	6	(4)	2	(1)
Module 3								
0	4	(3)	--	(--)	--	(--)	--	(--)
1	3	(2)	3	(1)	--	(--)	--	(--)
2	13	(9)	18	(7)	1	(1)	13	(5)
3	45	(31)	21	(8)	8	(6)	22	(8)
4	22	(15)	40	(15)	25	(17)	26	(10)
5	12	(8)	13	(5)	51	(35)	26	(10)
6	1	(1)	5	(2)	15	(10)	13	(5)
7								
Module 4								
0	6	(4)	11	(4)	--	(--)	--	(--)
1	19	(13)	13	(5)	--	(--)	11	(4)
2	24	(17)	36	(14)	4	(3)	24	(9)
3	38	(26)	26	(10)	19	(13)	32	(12)
4	10	(7)	11	(4)	55	(38)	29	(11)
5	3	(2)	3	(1)	22	(15)	5	(2)

TABLE 5 (cont'd.)

	Pre				Post			
	Modular		Control		Modular		Control	
Module 5	%	(N)	%	(N)	%	(N)	%	(N)
0	7	(5)	18	(7)	—	(—)	3	(1)
1	19	(13)	53	(20)	9	(6)	13	(5)
2	35	(24)	16	(6)	23	(16)	29	(11)
3	33	(23)	13	(5)	35	(24)	29	(11)
4	6	(4)	--	(--)	30	(21)	21	(8)
5	--	(--)	--	(--)	3	(2)	5	(2)
Module 6								
0	15	(11)	26	(10)	7	(5)	5	(2)
1	32	(22)	21	(8)	19	(13)	24	(9)
2	35	(24)	26	(10)	23	(16)	40	(15)
3	15	(10)	16	(6)	29	(20)	18	(7)
4	3	(2)	11	(4)	16	(11)	13	(5)
5	—	(--)	--	(--)	6	(4)	—	(—)
Module 7								
0	10	(7)	3	(1)	1	(1)	3	(1)
1	7	(5)	8	(3)	—	(--)	11	(4)
2	19	(13)	18	(7)	4	(3)	23	(9)
3	29	(20)	37	(14)	19	(13)	21	(8)
4	30	(21)	26	(10)	39	(27)	13	(5)
5	5	(3)	8	(3)	37	(25)	29	(11)
Module 8								
0	35	(24)	58	(22)	20	(14)	21	(8)
1	57	(39)	39	(15)	47	(32)	58	(22)
2	8	(6)	2	(1)	33	(23)	21	(8)

*For each module, the scale indicates the number of right answers. Thus a three on module 4 indicates three correct answers out of the five asked.

Thus each scale score in Table 5 indicates the number of correct answers for that particular module. Comparing pre scores for the two sections quickly indicates that similarity in scale score distributions is dominant. While there are some differences (see especially modules 3 and 5), the two sections more often coincided than differed in the distribution of their pre-scores. This is not the case when the post scale scores are compared. The most marked differences (if the final two categories of each scale are combined and compared) are in modules 1, 3, 4, and 7. In the remaining four modules, the modular section had a higher combined post score also, but the differences were not as great. Table 5 provides a very useful diagnostic aid for the instructor interested in measuring student learning within a particular subarea of a course and then comparing the subareas for difficulty and possible instructional changes.

Tables 2 through 5 support a major conclusion: the modular section experienced greater cognitive gain than the control section and this increased cognitive gain was not limited to just a few questions or a set of modules, but rather was a general pattern throughout the teaching experimentation. In the nomenclature utilized here, the module approach was more effective than the teaching methods utilized in the other section in raising the students' cognitive gain scores. The use and measurement of effectiveness has substantial implications for university teaching.

In the first place, it provides a useful comparison between approaches and instructors. Second, effectiveness is a useful way to analyze new teaching methods or materials and thorough consideration of how it is to be measured should be done before instituting innovation or experimentation. This is best done by setting goals -- maximizing enrollment, student satisfaction, cognitive gain, or a mix of these or other objectives. Evaluation is impossible till the goals are defined, methods to measure their achievement designed, and the evaluation completed. Experimentation and innovation without concern for evaluation (I would extend the argument to cognitive evaluation) should not be encouraged.

This raises another point which this paper cannot pursue in depth but which does require greater consideration. Effectiveness should not be the sole criteria used to decide if experimentation or innovation works. An efficiency concept must also be developed and utilized so that cost factors are considered. For instance, if the most effective teaching strategy is also

the most expensive (and this is probably not the case), faculty members might be well advised, given the realities of higher education budgets, to try and retain effectiveness while lowering costs. Certainly political scientists have an obligation to develop and utilize the most effective and efficient teaching methods and materials which are available to them. This can only be done if evaluation becomes much more common and utilized. In any case more research effort should be expended in pursuing the efficiency component of evaluation. This point will be raised again in the conclusion.

As stated earlier, data on student demographic characteristics were gathered in order to examine possible relationships between cognitive scores and student characteristics. For instance, it would be logical to expect that the more advanced class standing students had, the higher their cognitive score. The same should also be true for a student's grade point average, likelihood to read a news magazine or watch television network news, and whether they had a high interest in politics or had actually worked in a presidential campaign. The students' party identification and political identification may also be related to cognitive scores. Parents' yearly income was also explored with the assumption that the higher the parents' income the greater the likelihood that the students would do better on cognitive items because of their greater access to materials, etc.. It was also possible to obtain the student's grade for the modular section and thus the relationship between it and the student's cognitive score was explored. Table 6 provides the correlation coefficients for the cognitive pre and post scores and the student demographic characteristics.

(INSERT TABLE 6 HERE)

TABLE 6

CORRELATION COEFFICIENTS FOR COGNITIVE PRE AND POST SCORES AND STUDENT CHARACTERISTICS[1]

	Modular		Control	
	Pre	Post	Pre	Post
Module 1				
Class standing	.04	.03	-.40**	-17
Grade point average	.09	-.08	.05	-.31*
Party identification	.38**	.14	.23	.26*
Voted in pres. election	.35**	-.07	.21	.23
Parents' income	.27**	-.14	.22	-.04
Political identification	.26**	-.07	-.16	.06
Read newsmagazines	.13	-.14	-.37	-.02
Watch television news	.26**	-.03	-.19	.15
Interest in politics	.11	-.13	-.36	.16
Work in presidential campaign	.47**	.20*	-.18	-.09
Grade	-.14	-.15	NA	NA
Module 2				
Class standing	.30**	-.02	-.12	-.20
Grade point average	.36**	-.13	.12	-.18
Party identification	.25*	-.01	-.24	.01
Voted in pres. election	.12	-.10	-.06	.01
Parents' income	.17	-.04	-.13	-.05
Political identification	.19*	-.05	-.20	-.07
Read newsmagazines	.27**	.10	-.23	-.19
Watch television news	.27**	-.06	-.07	-.26*
Interest in politics	.41**	.09	-.38**	-.27*
Work in presidential campaign	.40**	.17	-.18	-.13
Grade	.19	.04	NA	NA
Module 3				
Class standing	.01	-.11	-.17	-.25
Grade point average	.13	-.24*	-.01	-.02
Party identification	.17	-.01	.12	.17
Voted in pres. election	.19*	-.09	.13	.21
Parents' income	.27**	-.17	-.28*	-.09
Political identification	.27**	.11	-.17	-.23
Read newsmagazines	.24*	-.13	-.17	-.27*
Watch television news	.24*	.02	-.03	-.12
Interest in politics	.27**	.01	-.12	-.37**
Work in presidential campaign	.44**	.14	-.20	-.13
Grade	-.02	-.36**	NA	NA
Module 4				
Class standing	.19	.28**	-.10	.07
Grade point average	.08	.06	-.11	-.18
Party identification	.06	.26**	.02	.12
Voted in pres. election	.24*	.22*	-.06	-.25
Parents' income	.08	.24*	-.15	.08
Political identification	.28**	.06	-.19	-.02
Read newsmagazines	.15	.17	-.09	-.07
Watch television news	.01	.26**	-.10	.14
Interest in politics	.23*	.20*	-.12	.02
Work in presidential campaign	.32**	.33**	-.11	-.30
Grade	-.15	-.19*	NA	NA

TABLE 6 (cont'd.)

CORRELATION COEFFICIENTS FOR COGNITIVE PRE AND POST SCORES AND STUDENT CHARACTERISTICS[1]

	Modular		Control	
	Pre	Post	Pre	Post
Module 5				
Class standing	.21*	.34**	-.25	-.03
Grade point average	.21*	.12	-.15	-.18
Party identification	.13	-.03	.27*	.08
Voted in pres. election	.19	.05	.17	-.01
Parents' income	.18	.00	..02	.07
Political identification	.21*	-.17	.23	.10
Read newsmagazines	.10	-.10	-.09	-.20
Watch television news	.20*	.05	.03	.03
Interest in politics	.26**	-.04	-.15	-.20
Work in presidential campaign	.31**	.21*	-.14	-.18
Grade	.05	.17	NA	
Module 6				
Class standing	.31**	.05	-.15	.34**
Grade point average	.20*	-.22*	.05	.21
Party identification	.15	.08	.12	.12
Voted in pres. election	.28**	.04	.07	-.14
Parents' income	.17	-.05	-.18	-.52**
Political identification	.08	-.10	-.15	.15
Read newsmagazines	-.09	-.18	-.09	.01
Watch television news	.29**	.19	-.28*	.09
Interest in politics	.19*	-.20	-.10	.19
Work in presidential campaign	.19*	.23*	-.30	-.29
Grade	.03	-.42	NA	NA
Module 7				
Class standing	-.01	-.02	-.19	.07
Grade point average	.06	-.01	-.16	-.04
Party identification	.19	-.03	-.05	.10
Voted in presidential election	.17	-.18	.08	-.05
Parents' income	.24*	-.19	-.06	.07
Political identification	.17	-.02	-.19	.16
Read newsmagazines	-.02	.02	-.48**	.54**
Watch television news	.16	.06	-.27*	.28*
Interest in politics	.02	.08	-.56**	.10
Work in presidential campaign	.33**	.19	.01	.21
Grade	-.02	.06	NA	NA
Module 8				
Class standing	.01	.04	.15	-.21
Grade point average	.01	.00	.08	-.15
Party identification	.09	-.03	.25	.30*
Voted in pres. election	.21*	.10	.14	.28*
Parents' income	.13	-.19*	.27*	.10
Political identification	.04	.18	-.30*	-.05
Read newsmagazines	.06	-.15	-.20	.01
Watch television news	.19*	.16	.06	.05
Interest in politics	.08	-.04	-.03	-.26*
Work in presidential campaign	.16	-.06	.13	-.25*
Grade	.20*	-.21*	NA	NA

[1] These arepearsonrscomputed by correlating the scale score for each module with the individual characteristic. As explained earlier, grades for the control group were not available.

* Significance level of .05

** Significance level of .01

For module 1, the highest coefficients are found in the modular and control sections' pretests. The highest (.47) for the modular students indicates strong association between working on a presidential campaign and doing well on the cognitive items while the coefficient for the control students and class standing (-.40) indicates an inverse relationship between class standing and performance on the module 1 questions. For the modular section, student party and political identification was associated (.38 and .26) with higher pre scores. Comparisons such as these for each of the modules are possible and the reader is encouraged to pursue them. For my purposes, the results in Table 6 can be summarized as follows.

First, no clear pattern emerges. Instead, particular patterns within a module are discernible. The most consistent relationship is between working in a presidential campaign and cognitive scale score, but even here the relationship is not significant in all pre and post tests for all the modules.

Second, for the control group, the relationship between course grade and cognitive scale score is not substantial nor significant.* This raises the possibility of a variety of interpretations concerning testing methods or cognitive item design which can't be explored here, but which would be an integral part of any attempt to develop a thorough evaluation technique.

Third, it is possible to say that increased exposure to news sources, in many cases, is associated with high pre cognitive scale scores. This is not the case, however, when the pre cognitive scale scores for the control section are considered. For instance, reading newsmagazines and watching network news on a regular basis are negatively associated (-.48 and -.27) with the student's cognitive gain scale score. While it is tempting to draw the conclusion that this reflects the ineffectiveness of the media, it is more logical, after reviewing the specific questions comprising module 7 (See Appendix A), to conclude that this information is not likely to be presented in these sources. Despite this, the reason for this relationship needs to be pursued and better developed, but again a strength of evaluation becomes apparent. A particular demographic characteristic has been associated with a particular cognitive gain pattern and this should assist the instructor in making appropriate instructional

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* It should be pointed out that 2/3's of each student's grade in the modular section was based on essay questions and not questions similar to the type asked in the modules.

or other changes in the future.

Finally, Table 6 indicates the complexity of designing teaching materials and instructional methodologies which are both effective and efficient given the lack of clear and consistent relationships between demographic characteristics and student cognitive gain. On the one hand this complicates the instructional process, but on the other it is often encouraging to realize the complexity involved in learning and teaching for both the student and the instructor.

ATTITUDE CHANGE

Each of the modules (see Appendix A for the specific questions) contained a series of questions which asked for student opinion on a question related to the subject covered in that module. The questions provided a range of responses. While the literature on attitude formation and change is extensive and cannot be reviewed here, the modules, through their pre and post-test aspects, were designed to measure the amount of attitude change a particular individual might experience. For instance, question 7 in module 5 asked for an opinion on the following: "The police have too many restrictions placed on them by the courts." A student answered this question in both the pre and post-tests and the module pre and post-tests if he or she were in the modular section and in the large pre and post-tests if in the control section. Table 7 provides a summary of attitude changers by section. For that table, if a

(INSERT TABLE 7 HERE)

TABLE 7

ATTITUDE "CHANGERS" BY SECTION*

	Modular		Control	
	%	(N)	%	(N)
Module 1				
0	9	(6)	5	(2)
1	38	(27)	13	(5)
2	28	(19)	50	(19)
3	22	(15)	27	(10)
4	3	(2)	5	(2)
Module 2				
0	10	(7)	8	(3)
1	19	(13)	24	(9)
2	20	(14)	29	(11)
3	26	(18)	18	(7)
4	23	(16)	18	(7)
5	2	(1)	3	(1)
Module 3				
0	32	(22)	26	(10)
1	29	(20)	37	(14)
2	25	(17)	21	(8)
3	14	(10)	16	(6)
Module 4				
0	9	(6)	11	(4)
1	13	(9)	13	(5)
2	36	(25)	26	(10)
3	36	(25)	21	(8)
4	6	(4)	24	(9)
5	--	--	5	(2)
Module 5				
0	4	(3)	8	(3)
1	12	(8)	8	(3)
2	29	(20)	45	(17)
3	20	(14)	35	(13)
4	19	(13)	2	(1)
5	16	(11)	2	(1)
Module 6				
0	7	(5)	--	(--)
1	20	(14)	16	(6)
2	36	(25)	40	(15)
3	29	(20)	24	(9)
4	8	(5)	13	(5)
5	--	(--)	7	(3)
Module 7				
0	9	(6)	--	(--)
1	6	(4)	26	(10)
2	22	(15)	32	(12)
3	30	(21)	18	(7)
4	25	(17)	21	(8)
5	8	(6)	3	(1)

TABLE 7 (cont'd.)

ATTITUDE "CHANGERS" BY SECTION*

	Modular		Control	
Module 8	%	(N)	%	(N)
0			5	(2)
1	13	(9)	32	(12)
2	38	(26)	26	(10)
3	26	(18)	29	(11)
4	15	(10)	8	(3)
	8	(6)		

* The lower the score the greater the attitude change. The higher the score, the less attitude change and the more consistency. For my purposes, attitude change was defined as lack of agreement between responses in the pre and post test to each question. The scores here do not capture the magnitude of the shift which may have occurred nor the direction of the shift, but only the number of students changing their minds on the questions included in each module.

student's responses to the same question, regardless of the direction of the change or magnitude of change, were different, the student was assigned to the changer's category. Table 7 simply aggregates the number of individuals who changed their minds for each question for each module. The relationship can be summarized as follows:

$$AC = PA \neq POA$$

where AC = Attitude Change
PA = Pre Attitude
POA = Post Attitude

Note that the lower the score in Table 7, the greater the attitude change on the part of the students. The reverse is also true - the higher the score in Table 7, the greater the attitudinal consistency exhibited by the students.

In reviewing Table 7, several points become clear. First, there was considerable attitude change among the students. For the modular section, module 3 resulted in the greatest attitude change with 61% of the students reflecting a different attitude on at least two of the three questions. Module 8 had 51% of the students changing their responses on three of the four questions. For the control students, module 3 dealing with attitudes towards Congress, had the highest change with 63% of the students selecting different responses to two of the three questions. Another useful way of considering the change aspect is to look at the middle category of each module (for instance, the 2 category for module 1) since the students falling in this category changed their minds on two of the questions. For module 1, the percentages are 28% for the modular section and 50% for the control section. Similar comparisons throughout the modules indicate that considerable change did in fact take place.

Second, Table 7 clearly indicates that only a small percentage of students in both the modular and control sections held a consistent set of attitudes in both the pre and post-tests. Modules 3, 5, and 8 had 16, 12, and 9 students who did not change their attitudes on any of the questions, but these were the two highest modules. Even when combining the two highest scores for each module and comparing it with the two lowest, attitude changers exceeded those holding consistent attitudes in 9 of the 15 comparisons (module 8 control had no difference). Modules 1-4, 6, and 8 for the modular students and modules 2, 3, 5, 7 for the control students had more changers than consistent attitude holders. These findings also indicate greater attitude change occur-

red in the modular section.

Third, when comparing the two sections, module 6 is characterized by the greatest disparity between the percent changers and consistent. Module 6 dealt with civil rights in the United States there was greater attitude change among students in the modular section than those in the control section. Subsequent analysis indicated that the attitude shift was towards greater recognition of civil rights and the ability to strengthen their realization. This may reflect the impact of the course material which stressed the need for increased concern for civil rights and positive change in the United States.

In sum then, attitude change was frequent and characteristic of both the modular and control group students. It is impossible to say if it is comparable to attitude change in other similar groups since data do not exist which permit this type of comparison, but it is possible to say that both instructors and/or course material had some impact on the attitudes of the students. The nature of this impact and the specific process by which it occurs deserve additional research and scholarly attention, but is beyond the scope of this paper.

One additional aspect of attitude change was examined - that is what are the characteristics of those students with high attitude consistency. Table 8 summarizes the correlation coefficients between attitude change and the

(INSERT TABLE 8 HERE)

TABLE 8

CORRELATION BETWEEN ATTITUDE CHANGE AND DEMOGRAPHIC FACTORS[1]

	Modular	Control
Module 1 attitude change and:		
Class standing	.17	-.30*
Grade point average	.17	-.16
Party identification	.09	.07
Voted in pres. election	.12	.28*
Parents' income	.36**	.08
Political identification	.14	-.08
Read newsmagazine	-.08	-.22
Watch television news	.21*	-.38**
Interest in politics	.32**	-.52**
Work in presidential campaign	-.01	-.34**
Grade	-.01	NA
Module 2 attitude change and:		
Class standing	.20*	-.01
Grade point average	.22*	.04
Party identification	.35**	.16
Voted in pres. election	.30**	.08
Parents' income	.03	.27*
Political identification	.24*	.16
Read newsmagazines	.08	-.03
Watch television news	.01	-.02
Interest in politics	.16	-.01
Work in presidential campaign	-.04	-.22
Grade	-.10	NA
Module 3 attitude change and:		
Class standing	.13	-.05
Grade point average	.22*	-.12
Party identification	.01	.13
Voted in pres. election	.23*	.28*
Parents' income	.17	-.10
Political identification	.24*	-.01
Read newsmagazines	.15	-.14
Watch television news	.04	.06
Interest in politics	.22*	.09
Work in presidential campaign	-.01	.04
Grade	-.04	NA
Module 4 attitude change and:		
Class standing	.20*	-.25
Grade point average	.07	-.20
Party identification	.10	.13
Voted in pres. election	.35**	.18
Parents' income	.10	.14
Political identification	.29**	-.03
Read newsmagazines	.19	-.13
Watch television news	.05	.07
Interest in politics	.21*	-.09
Work in presidential campaign	.06	-.18
Grade	-.21*	NA

TABLE 8 (cont'd.)

CORRELATION BETWEEN ATTITUDE CHANGE AND DEMOGRAPHIC FACTORS[1]

	Modular	Control
Module 5 attitude change and:		
Class standing	.21*	.19
Grade point average	.06	-.04
Party identification	.12	.4
Voted in pres. election	.09	-.03
Parents' income	-.02	.05
Political identification	.26**	-.16
Read newsmagazines	.27**	-.08
Watch television news	.22*	.01
Interest in politics	.33*	.08
Work in presidential campaign	.11	-.29*
Grade	-.06	NA
Module 6 attitude change and:		
Class standing	.21*	.08
Grade point average	.17	.06
Party identification	.14	.16
Voted in pres. election	.18	.05
Parents' income	.32**	-.27*
Political identification	.12	-.08
Read newsmagazines	.01	-.11
Watch television news	.02	-.19
Interest in politics	.16	-.09
Work in presidential campaign	.12	.23
Grade	-.04	NA
Module 7 attitude change and:		
Class standing	.13	.22
Grade point average	.14	-.03
Party identification	.10	-.12
Voted in pres. election	.32**	.11
Parents' income	.33**	-.10
Political identification	.16	.08
Read newsmagazines	-.03	.29*
Interest in politics	.13	.16
Work in presidential campaign	.03	.06
Grade	.01	NA
Module 8 attitude change and:		
Class standing	.07	.01
Grade point average	.21*	.04
Party identification	.12	.06
Voted in pres. election	.17	.25
Parents' income	.17	-.15
Political identification	-.05	.23
Read newsmagazines	.06	-.05
Watch television news	.24*	-.03
Interest in politics	.08	.29*
Work in presidential campaign	.11	.01
Grade	-.01	NA

[1]Each of the demographic variables (see Table 1) were correlated with the modular attitude change scores - these are represented in the previous table.

* Significance level of .05

** Significance level of .01

demographic characteristics found in Table 1. In this case, a positive correlation indicates a relationship between attitude consistency and that particular variable while a negative correlation indicates a relationship between inconsistency and that particular variable.

In reviewing the modular section's results, it becomes apparent that no single demographic variable has a high correlation for all the modules. In fact, the only general conclusion which appears possible is that there is no clear relationship between attitude consistency and individual characteristics. One may isolate specific modular patterns but these are not strong enough to stress. Thus, as Table 8 indicates the demographic characteristics are not consistently associated with student attitude change.

CONCLUSION

As stated throughout the paper, this is a first attempt at systematic evaluation of instructor impact and instructional method on students' cognitive and attitudinal dimensions. The research was meant to be experimental and the possible reservations about methodology, the data, and the conclusions drawn may be numerous. Despite this, several major conclusions are possible.

First, student cognitive change can in fact be measured and correlated with basic demographic traits. This would be a particularly useful set of diagnostic information for the instructor to have in terms of understanding the dynamics of a particular group of students or in assessing the progress he or she has made in teaching specific cognitive information. By utilizing a combination of pre and post-testing on carefully developed performance items, the instructor (and those who evaluate instructor performance) can better determine effectiveness. That is, how much are students learning.

Second, the development of cognitive evaluation should also facilitate the measurement of an instructor's efficiency; by comparing cognitive gain obtained by differing methods of instruction or different instructors, costs can be determined for each type of instruction. This efficiency rating can then be used by appropriate decision-makers to make financial decisions. Before the instructor argues that the small lecture approach is best, cognitive gain evidence should be provided just as the administrator should have to

provide data supporting the contention that mass lectures or closed circuit television instruction is the most effective and efficient. The point is that too often such decisions are made without appropriate data. These may well be the worst of all decisions since higher education may not continue to enjoy the insulation from public overview it has traditionally had. Current emphasis should concentrate on improving educational impact and more effectively utilizing available resources. Evaluation will be of considerable assistance in this.

Finally, two related points need to be made. Evaluation is not inexpensive - it involves considerable time and financial expenditures and may often lead to conflicting or inconclusive results. It certainly isn't a "cure-all" for the problems facing higher education or the individual instructor, but it is an important and needed component if effective and efficient change is to be brought about. Perhaps university administrators ought to consider allocating a small, but regular, percentage of their budgets for evaluation efforts. The long term impact could be significant and even more important, higher education would be involved in comprehensive and carefully done evaluation. Second, evaluation does have its political aspects - any decision to allocate resources for one activity versus another is political. There are potential difficulties involved in the use of evaluation, but carefully done and systematic evaluation would permit more rational decision-making by all the participants involved in higher education. Since social scientists are now expecting this of other institutions, we must also expect it of ourselves and should take specific steps to encourage the development and utilization of instructional evaluation techniques.

NOTES

[1]For a representative sample of the various types of articles and teaching experimentation being attempted in political science, see DEA News, the No. 12, Winter, 1977 issue.

[2]For an example of the course materials developed and grant competition held, see William D. Coplin, "Development, Availability and Adaptation of New Cross Disciplinary Learning Materials in International Studies," DEA News, (No. 7), Fall, 1975, (pp. S5, S10); and "A Call for Proposals to Initiate a Second Set of Modules on Learning Analysis in Political and Social Science (LAPSS)," DEA News, No. 12, Winter, 1977, (pp. 11-14).

[3]The University of Wisconsin-Oshkosh has instituted such a plan. It was described in a February 7, 1977 New York Times article (p. 13).

[4]Robert M. W. Travers, ed. The Second Handbook of Research on Teaching (Chicago: Rand McNally, 1973), p. vi.

[5]Ibid.

[6]John D. McNeil and W. James Popham, "Assessment of Teacher Competence," in The Second Handbook of Research on Teaching, p. 238.

[7]James W. Trent and Arthur M. Cohen, "Research in Teaching in Higher Education," in The Second Handbook of Research on Teaching, p. 1054.

[8]James Benze, "Evaluating Teaching Effectiveness," unpublished paper, Purdue University, 1976. I would also like to thank Mr. Benze for his bibliographical assistance.

[9]Ibid., pp. 6-7.

[10]Trent and Cohen, p. 1057.

[11]The best single source concerning the modular approach utilized in the course is found in James Russell, Modular Instruction (Minneapolis: Burgess, 1974).

[12]I would like to thank Allan F. Wichelman for his cooperation and assistance in this project. His generosity in permitting access to his students is appreciated.

APPENDIX A

_____ indicates the correct answer.

MODULE 1

1. Approximately _____ states have ratified the Equal Rights Amendment.
   a. 12
   b. 22
   c. 32
   d. 42
   e. 50

2. _____ states must ratify it in order for it to become part of the Constitution.
   a. 88
   b. 18
   c. 28
   d. 38
   e. 48

3. At the present time, there are _____ amendments to the United States Constitution.
   a. 17
   b. 20
   c. 23
   d. 26
   e. 29

4. The Bill of Rights:
   a. Specifically grants certain powers to the national government;
   b. Includes the first ten amendments to the Constitution;
   c. Was not completed till 1865;
   d. Was responsible for the Civil War;
   e. Has not been controversial.

5. In Marbury versus Madison, the Supreme Court:
   a. Established the precedent of judicial review;
   b. Increased the powers of the legislative branch;
   c. Resolved all questions pertaining to power relationships among the various branches of government;
   d. Upheld an earlier decision by President Andrew Jackson.

6. According to the Constitution of the United states, in order for laws to be enacted:
   a. The President must initiate them;
   b. Both the House and Senate must pass them;
   c. The President must sign them;
   d. The Supreme Court must rule them constitutional.

7. "The Constitution of the United State has become outmoded and requires major revision." How do you feel about the above statement:
   a. Agree strongly
   b. Agree somewhat
   c. Don't know
   d. Disagree somewhat
   e. Disagree strongly

8. "Discrimination based on sex should not be permitted in this country."
   a. Agree strongly
   b. Agree somewhat
   c. Don't know
   d. Disagree somewhat
   e. Disagree strongly

9. "The United States Constitution is a concise and easy to understand document."
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

10. Federalism is:
   a. A form of economic soicalism;
   b. A system of government emphasizing the power of the central unit;
   c. Characteristic of all major contemporary democratic systems;
   d. A system of government with powers divided between the national government and at least one additional level of government.

MODULE 2

1. Former President Richard M. Nixon:
   a. Was impeached by the House of Representatives;
   b. Was impeached by the House Judiciary Committee;
   c. Has admitted his role in the planning of Watergate;
   d. Resigned due to political and public pressure;
   e. Will be brought to trial for alleged criminal violations;

2. The President, according to the Constitution as amended:
   a. Must be over 40 years of age;
   b. Must have prior governmental experience;
   c. Must serve no longer than 1 term;
   d. Must be non-partisan in pursuing the duties of his office;
   e. Must receive a majority of electoral college votes;

3. The total number of civilian employees of the federal government is approximately:
   a. 2.6 million
   b. 7.3 million
   c. 10.4 million
   d. 14.6 million
   e. 27.1 million

4. The Cuban Missile Crisis of 1963:
   a. Resulted in a secret invasion of Cuba;
   b. Brought the superpowers to the brink of nuclear war;
   c. Was widely ignored by the American press;
   d. Resulted in major new defensive changes in American military planning;
   e. Increased the likelihood of global military confrontation;

5. Most American Presidents have received _____ proportion of popular votes when compared to their electoral college votes.
   a. a smaller
   b. about the same
   c. a larger
   d. none of the above

6. The President has too much power in foreigh policy-making.
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

7. The President has too much power in domestic policy-making.
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

8. In general, the President has too much power.
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

9. Former President Nixon was treated unfairly by the media during the Watergate controver
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

10. Former President Nixon was a victim of poor advice and disloyal subordinates.
    a. Agree strongly
    b. Agree somewhat
    c. No opinion
    d. Disagree somewhat
    e. Disagree strongly

MODULE 3

1. " Congress is much too conservative. It fails to be a leader on social issues."
   a. Agree strongly
   b. Agree somewhat
   c. No response
   d. Disagree somewhat
   e. Disagree strongly

2. "Congress impedes the power of the President and often stifles needed policy change."
   a. Agree strongly
   b. Agree somewhat
   c. No response.
   d. Disagree somewhat
   e. Disagree strongly

3. "While one may criticize Congress for specific things, in general, Congress acts in a responsible and responsive manner to the needs and wants of the American public."
   a. Agree strongly
   b. Agree somewhat
   c. No response
   d. Disagree somewhat
   e. Disagree strongly

4. The current minority leader in the Senate is:
   a. Hugh Scott
   b. Barry Goldwater
   c. Henry Jackson
   d. "Tip" O'Neil
   e. None of the above

5. The current majority leader in the House of Representatives is:
   a. John Brademas
   b. Floyd Fithian
   c. Ted Kennedy
   d. Carl Albert
   e. None of the above

6. The present Congress is identified as:
   a. 93rd Congress, 2nd session;
   b. 94th Congress, 1st session;
   c. 94th Congress, 2nd session;
   d. 95th Congress, 1st session;
   e. 95th Congress, 2nd session;

7. A vote of cloture:
   a. Limits debate in the House of Representatives;
   b. Is frequently used by those interested in obtaining a parliamentary advantage;
   c. Results in an increase in Presidentil power;
   d. Is difficult to achieve and infrequently used;
   e. Can be used by the President eo force action on legislation;

8. Conference committees in Congress:
   a. Respond to presidential dictates;
   b. Initiate legislation in Congress;
   c. Are usually characterized by compromise;
   d. Are dominated by members of the Senate;
   e. Rarely if ever produce any meaningful results;

9. Representation in the United States Senate is based on _____ AND REPRESENTATION in the United States House of Representatives is based on _____:
   a. States, population
   b. population, population
   c. population, states
   d. presidential decision, Supreme Court decision
   e. Supreme Court decisions, presidential decisions

10. At the present time, there are _____ members of the House of Representatives and _____ members of the Senate.

a.	100	100
b.	100	435
c.	435	435
d.	50	50
e.	435	100

MODULE 4

1. Who is the current Chief Justic:
   a. Warren Burger
   b. Earl Warren
   c. William Douglas
   d. Thurgood Marshall
   e. Ramsey Clark

2. Appointees to the federal bench are of the same party as the President what percent of the time?
   a. 10 percent
   b. 30 percent
   c. 50 percent
   d. 70 percent
   e. 90 percent

3. There are currently _____ members of the United States Supreme Court?
   a. 5
   b. 7
   c. 9
   d. 11
   e. 6

4. The "Miranda" and "Escobeda" Supreme Court decisions:
   a. Reversed the powers of the states to use capital punishment;
   b. Freed two known felons;
   c. Dealt with illegal searches for evidence;
   d. Established the specific guidelines for attorneys to be present when a subject is being questioned;
   e. Broke the 100 year precedent of permitting state courts the right to deny an individual access to counsel;

5. The "Brown" decision by the Supreme Court:
   a. Ended school discrimination in the United States;
   b. Reversed a decision reached by the Supreme Court over 50 years earlier;
   c. Increased the powers of local school officials;
   d. Effectively blocked racial integration of the schools;
   e. Specified how integration was to be brought about;

6. Busing of school children to achieve racial integration should be stopped.
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

7. The police have too many restrictions placed on them by the courts.
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

8. Criminal rights need to be strengthened in order to reduce the public's violation of them.
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

9. The Courts are too lenient on criminals--those found guilty of crimes should be harshly punished.
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

10. Capital punishment should be permitted.
    a. Agree strongly
    b. Agree somewhat
    c. No opinion
    d. Disagree somewhat
    e. Disagree strongly

MODULE 5

1. At the present time, approximately what percentage of the American public identifies with the Democratic Party?
    a. 25%
    b. 35%
    c. 45%
    d. 55%
    e. 65%

2. Which of these presidential elections resulted in the closest electoral college outcome?
    a. 1952
    b. 1956
    c. 1964
    d. 1968
    e. 1972

3. The existence of "flash political parties":
    a. Is common in the United States
    b. Is seldom found in Western Europe
    c. Symbolizes basic political instability
    d. Results in bloodshed and war
    e. Indicates the absence of persistent party identification

4. If there are 5 black balls and 5 white balls in a vase and each has the same chance to be drawn (the first one would be removed after it was drawn), what would be the probability of drawing 2 black balls on the first two draws?
    a. 1/10 x 4/9
    b. 5/10 x 5/10
    c. 1/10 x 5/9
    d. 5/10 x 4/9
    e. 5/10 x 1/9

5. The Democrat candidate for President in 1972 was _____; the Republican Candidate for President was _____?
    a. Wallace, Nixon
    b. Johnson, Ford
    c. Johnson, Nixon
    d. McGovern, Nixon
    e. Humphrey, Nixon

6. There is very little difference between what the Republican and Democrat parties stand for.
    a. Agree strongly
    b. Agree somewhat
    c. No opinion
    d. Disagree somewhat
    e. Disagree strongly

7. Party politics in the United States is always corrupt.
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

8. Big money determines who wins elections.
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

9. The right to vote provides the average citizen with an effective check on his elected public officials.
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

10. In 1976, the Democrat Presidential nominee should be:
   a. George McGovern
   b. Hubert Humphrey
   c. George Wallace
   d. Ted Kennedy
   e. Henry Jackson
   f. Morris Udall
   g. Jimmy Carter
   h. Lloyd Bentson
   i. Other (identify)

MODULE 6

1. American politicans have stressed racial integration too greatly.
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

2. Racial balancing in the schools should be an important goal of government in the United States.
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

3. Racial minorities have been given too many concessions in recent years.
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

4. Equality of opportunity for all Americans is a desired goal for America.
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

5. Violence can never produce productive results.
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

6. The Coleman Report:
   a. Called for racial segregation in the schools
   b. Was widely acclaimed
   c. Has generated extensive public debate and controversy
   d. Resulted in massive race riots
   e. Detailed conditions in the nation's slums

7. "Feedback" in a political system:
   a. Cannot exist
   b. Results in dynamic qualities
   c. Is always destructive
   d. Is the prime factor in determing outcomes
   e. Results in increased demands by the public

8. De jure school segregation:
   a. Is permitted in some states;
   b. Has caused furor in Boston;
   c. Has been declared illegal by the Supreme Court;
   d. Is widely practiced in urban areas;
   e. Was most common in the 1800s;

9. The Voting Rights Act of 1965:
   a. Gave the vote to black Americans;
   b. Has been permitted to expire;
   c. Has had little effect on voting;
   d. Is most important in several Southern states;
   e. Led to widespread violence in the South;

10. The urban riots of the 1960s were:
   a. Limited in property damage;
   b. Resulted in few injures;
   c. Caused by professional agitators;
   d. Studied extensively by researchers;
   e. Important in advancing minority powers;

MODULE 7

1. It is estimated that Organized crime makes _____ yearly in profit from its illegal gambling operations?
   a. $1 million
   b. $ 50 million
   c. $ 100 million
   d. $ 600 million
   e. $ 1 billion plus

2. The true odds of correctly selecting each digit of a three digit number (assuming each digit has an equal chance of being selected on each draw) is _____:
   a. 1 in 10
   b. 1 in 100
   c. 1 in 1000
   d. 1 in 10,000
   e. 1 in 1000000

3. _____ is the current governor of Indiana.
   a. Edgar Whitcomb
   b. Roger Brannigin
   c. Birch Bayh
   d. Otis Bowen
   e. Vance Hartke

4. For its control, a political machine depends on:
   a. Oppression
   b. Illegal voting practices
   c. Bribery
   d. Public apathy
   e. Tight organization

5. The Constitution of the United States:
   a. Grants specific powers to urban areas;
   b. Does not mention urgan areas;
   c. Grants limited powers to urban areas;
   d. Delineates the powers of mayors only;
   e. Encourages the formation of political parties;

6. "Organized crime is a serious threat to this country."
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

7. Those suspected of participation in organized crime activitives should not have the same rights as other Americans.
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

8. America has too many large cities.
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

9. Life in America's urban centers is not as attractive as life in rural areas and small towns.
   a. Agree strongly
   b. Agree somewhat
   c. No opinion
   d. Disagree somewhat
   e. Disagree strongly

10. Politics in Indiana is not very important to me.
    a. Agree strongly
    b. Agree somewhat
    c. No opinion
    d. Disagree somewhat
    e. Disagree strongly

MODULE 8

1. Change is too slow in the United States
    a. Agree strongly
    b. Agree somewhat
    c. No opinion
    d. Disagree somewhat
    e. Disagree strongly

2. Political change in the United States has not kept up with economic change.
    a. Agree strongly
    b. Agree somewhat
    c. No opinion
    d. Disagree somewhat
    e. Disagree strongly

3. Political change in the United States has not kept up with technological change.
    a. Agree strongly
    b. Agree somewhat
    c. No opinion
    d. Disagree somewhat
    e. Disagree strongly

4. Basic change will never take place in America because of the vested power of large and powerful interests.
    a. Agree strongly
    b. Agree somewhat
    c. No opinion
    d. Disagree somewhat
    e. Disagree strongly

5. Incremental change:
    a. Is not typical in American society;
    b. Dominates most economic decisions in this country;
    c. Was dominant in the late 1800s;
    d. Rewards those wanting basic change;
    e. Results in everyone being satisfied;

6. Pluralism means:
    a. The plurals of verbs and nouns;
    b. Domination by a single dominant group:
    c. Constant compromise over key decisions;
    d. The end of democratic rule;
    e. No group having much power;

APPENDIX B

POLITICAL SCIENCE 101

Please place the appropriate answer which best describes your feelings or which you feel is correct on your answer sheet. All responses are confidential and will not be used in determining your grade. Your participation is appreciated. Please be sure your name is on your answer sheet only.

1. What is your class standing?
   a. First semester freshman
   b. Second semester freshman
   c. Sophmore
   d. Junior
   e. Senior
   f. Other

2. What is your current grade point cumulative average? (If first semester freshman, indicate graduating high school average.)
   a. A- to A (5.5 to 6.0)
   b. B to B+ (5.0 to 5.5)
   c. B- to C+ (4.5 to 5.0)
   d. C to C+ (4.0 to 4.5)
   e. C to C- (3.5 to 4.0)
   f. D or lower (3.5 or lower)

3. What is your age? _____

4. How many political science or government courses have you had? (If first semester freshman, how many courses in high school.)
   a. None
   b. One
   c. Two
   d. Three
   e. Four or more

5. Which school of the university are you enrolled in?
   a. Humanities, Social Science, and Education
   b. Engineering
   c. Krannert
   d. Agriculture
   e. Science
   f. Pharmacy
   g. Other (please indicate) _____

6. Why have you enrolled in PS 101?
   a. Required course
   b. Interest in politics and government
   c. Desire for specific information
   d. Recommended by friend
   e. Other (please indicate) _____

7. What state are you from?
   _____ (please indicate)

8. What size city, town or area did you graduate from high school in?
   a. Largely rural, farm area
   b. Small town (under 10,000 people)
   c. Medium size town or city (10,000 to 25,000 people)
   d. City of 25,000 to 100,000 people
   e. City of 100,000 to 250,000 people
   f. City over 250,000 people
   g. Don't know

9. Do you consider yourself:
   a. A liberal Democrat
   b. A moderate Democrat
   c. A conservative Democrat
   d. Independent leaning towards Democrat
   e. Independent leaning towards Republican
   f. A liberal Republican
   g. A moderate Republican
   h. A conservative Republican
   i. Other (please indicate) _____

10. Have your voted in a local election either here or in your home?
   a. Yes
   b. No
   c. Not old enough to vote

11. Have you voted in a state election either here or in your home?
   a. Yes
   b. No
   c. Not old enough to vote

12. Have you voted in a Presidential election?
   a. Yes
   b. No
   c. Not old enough to vote

13. What is your parents' approximate yearly income?
   a. Under $10,000
   b. Between $10,000 and $15,000
   c. Between $15,000 and $20,000
   d. Between $20,000 and $25,000
   e. Over $25,000
   f. Don't know

14. Would you consider yourself:
   a. A radical
   b. A liberal
   c. A middle-of-the roader
   d. A conservative
   e. A reactionary
   f. Other
   g. Don't know

15. How often do you read a news magazine?
   a. Weekly
   b. Monthly
   c. Almost never

16. How often do you read a newspaper?
    a. Daily
    b. Once or twice a week
    c. Once or twice a month
    d. Almost never

17. How often do you watch national news on network television?
    a. Daily
    b. Once or twice a week
    c. Once or twice a month
    d. Almost never

18. How often do you discuss politics with your friends and acquaintences?
    a. Daily
    b. Once or twice a week
    c. Once or twice a month
    d. Almost never

19. How interested are you in politics?
    a. Greatly interested
    b. Somewhat interested
    c. Somewhat disinterested
    d. Greatly disinterested

20. Have you ever worked for a candidate for a local office?
    a. Yes
    b. No

21. Have you ever worked for a candidate for a state office?
    a. Yes
    b. No

22. Have you ever worked for a presidential candidate?
    a. Yes
    b. No